



ALBERTA NON-GRID RISK SHARING POOL

MAY 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS
RSP ALBERTA NON-GRID
OPERATIONAL REPORT
MAY 2020

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1 Summary

Key Points

- (a) The 2020 Q1 valuation was completed and implemented into the results this month, with a \$2.2 million favourable impact, or 0.8% of beginning policy liabilities (policy liabilities ended at \$293 million) and 4.1 points of year-to-date earned premium; the updated valuation loss ratios include an initial assessment of the incurred impacts associated with the COVID-19 pandemic;
- (b) The month’s Current Accident Year claims activities were lower than projected; the activity was reviewed and attributed to a reduction in written premium and physical damage claims experience further to the projection adjustment made last month in relation to the COVID-19 pandemic; and
- (c) May’s premium projections have been updated to reflect the most recent information provided by certain members. Updated claims assumptions are derived from the 2020 Q1 valuation; May’s reported claims projections include an additional 10% decrease in Current Accident Year reported claims activity - reducing the projected reported activity over the next 2 months and spreading over the remainder of the year, reflecting a shift in Current Accident Year claims reporting and emergence patterns due to the COVID-19 pandemic impact.

1.1 Valuation Schedule (Fiscal Year 2020)

The May 2020 Operational Report incorporates the results of an updated valuation (as at March 31, 2020) – the impact of the implementation of the valuation is discussed in section 1.2. The following table summarizes the valuation implementations scheduled for fiscal year 2020.

ALBERTA NON-GRID RISK SHARING POOL FISCAL YEAR 2020 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep 30, 2019 (completed)	1.46% mfad 25 bp	Oct. 2019	updated valuation (roll forward) : accident year 2019 loss ratio <u>d</u> ecreased 2.6 points to 102.2%; discount rate <u>i</u> ncreased 3 basis points; no change to selected margins for adverse deviations
Dec. 31, 2019 (completed)	1.64% mfad 25 bp	Mar. 2020	update valuation: 2019 loss ratio <u>d</u> ecreased 1.3 points to 100.9%; accident year 2020 loss ratio <u>d</u> ecreased 7.0 points to 99.7%; discount rate <u>i</u> ncreased 18 basis points; no change to selected margins for adverse deviations
Mar. 31, 2020 (completed)	0.63% mfad 25 bp	May 2020	update valuation (partial roll-forward): accident year 2020 loss ratio <u>d</u> ecreased 3.6 points to 96.1%; discount rate <u>d</u> ecreased 101 basis points; no change to selected margins for adverse deviations

ALBERTA NON-GRID RISK SHARING POOL FISCAL YEAR 2020 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Jun. 30, 2020	% mfad -- bp	Aug. 2020	update valuation
Sep 30, 2020	% mfad -- bp	Oct. 2020	update valuation (roll-forward)

Under the proposed schedule for fiscal year 2020, the off-half valuation quarters ending March 31, 2020 and September 30, 2020 would not reflect a full valuation update of assumptions, but would rather roll-forward key assumptions from the previous valuation. However, with disruption in the insurance environment from the COVID-19 pandemic, the current valuation (quarter ending March 31, 2020) includes a partial update of key assumptions to reflect this impact. Other assumptions are rolled-forward from the previous valuation.

1.2 New Valuation

A valuation of the Alberta Non-Grid Risk Sharing Pool (“RSP”) as at March 31, 2020 has been completed since last month’s Operational Report and the results of that valuation have been incorporated into this month’s Report. The valuation was completed by the Facility Association’s internal actuarial group in conjunction with, and approved by, the Appointed Actuary, under the hybrid model for actuarial services.

The valuation implementation impact is summarized in the following two tables, where the abbreviations PAYs refers to prior accident years, CAY refers to the current accident year (2020), and Prem Def refers to premium deficiency / deferred acquisition costs impacts.

Summary of Impact (\$000s) of Implementing Result of Valuation as at Mar. 31, 2020¹

AB Non-Grid	unfav / (fav) for the month and ytd					
	IMPACT in \$000s from changes in:					
	ults & payout patterns		dsct rate	margins		
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
	[1]	[2]	[3]	[4]	[5]	[6]
PAYs	(4,716)	(398)	(5,114)	4,701	-	(413)
CAY	(1,942)	(182)	(2,124)	1,094	-	(1,030)
Prem Def	(2,002)	(176)	(2,178)	1,462	-	(716)
TOTAL	(8,660)	(756)	(9,416)	7,257	-	(2,159)

¹In these tables, “PAYs” refers to prior accident years, “CAY” refers to the current accident year, and “Prem Def” refers to the provision for premium deficiency or the deferred policy acquisition asset (as applicable). “Nominal” refers to changes excluding any actuarial present value adjustments, whereas “apv adj.” refers to actuarial present value adjustments.

The columns under the heading “ults & payout patterns” reflect the impact of changes in the valuation selected ultimates and claims payment patterns (i.e. based on unchanged selection of discount rates and margins for adverse deviation). The column “dsct rate” reflects the impact of the change in the selected discount rate and the column “margins” reflects the impact of any changes in selected margins for adverse deviations.

As indicated in the preceding table, the incorporation of the new valuation had an estimated **\$2.2 million favourable impact** on the month's net result from operations, subtracting an estimated 4.1 points (see following table) to the **year-to-date Combined Operating Ratio** to end at **127.2%**.

Summary of Impact (% YTD EP) of Implementing Result of Valuation as at Mar. 31, 2020

AB Non-Grid	ytd EP 52,776 (actual)					
	IMPACT unfav / (fav) as % ytd EP from changes in:					
	ults & payout patterns			dsct rate	argins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
[1]	[2]	[3]	[4]	[5]	[6]	
PAYs	(8.9%)	(0.8%)	(9.7%)	8.9%	-	(0.8%)
CAY	(3.7%)	(0.3%)	(4.0%)	2.1%	-	(2.0%)
Prem Def	(3.8%)	(0.3%)	(4.1%)	2.8%	-	(1.4%)
TOTAL	(16.4%)	(1.4%)	(17.8%)	13.8%	-	(4.1%)

The impact of the **nominal changes** is shown in column [1] of the two preceding summary tables. The change in the selected nominal ultimates was **favourable by \$8.7 million** overall. This reflects the impact attributable to the changes in the selected ultimate loss ratios (i.e. for each accident year, it is the product of life-to-date earned premium for the accident year and the change in the selected ultimate loss ratio).

The **PAYs** overall showed a **\$4.7 million favourable** nominal variance or 2.8% of the PAYs nominal unpaid balance of \$170.3 million determined at the end of last month (April 2020), driven by favourable claims development and updates to a priori loss ratios to include more recent data and updated trends. While the valuation implementation impact does differ from the valuation changes themselves (as they apply to different periods), the valuation result by government line provides insight into the relative PAYs nominal changes. As per the following table, the primary changes were in relation to TPL and Other Coverages for accident year 2019.

Valuation as at Mar. 31, 2020 – PAYs Nominal Changes by Government Line

Alberta Non-Grid RSP - valuation changes in selected ultimate
(favourable) / unfavourable during Quarter

Accident Year	Third Party Liability	Accident Benefits	Other Coverages	Total
2015 & Prior	(1,249)	(398)	486	(1,161)
2016	1,158	(18)	(48)	1,092
2017	(280)	(62)	(63)	(405)
2018	(504)	82	94	(328)
2019	(2,520)	389	(2,413)	(4,544)
TOTAL	(3,395)	(7)	(1,944)	(5,346)

The CAY and premium deficiency impacts are a result of the change in the selected loss ratios for accident year **2020** (decreased 3.6 points to **96.1%**) and accident year **2021** (increased 0.4 points to 100.0 %).

The impacts related to actuarial present value (“apv”) adjustments are split into the impact prior to any change in the selected discount rate and selected margins for adverse deviations or “MfADs” (at the level they were selected i.e. coverage and accident half-year), the impact of then updating the discount rate, and finally the impact of any changes to the MfADs (at the level they were selected). The changes in actuarial present value adjustments are shown in the preceding summary tables in columns [2], [4], and [5].

Column [2] recognizes that changing the nominal selections also changed the unpaid estimates (including changes to the relative mix by government line, which had an impact on the weighted-average MfADs). It also reflects the fact that we updated the projected emergence of claims payments, resulting in a change in the projected cash flows. These changes generated an favourable change of \$0.8 million in the actuarial present value adjustments, prior to any changes in the selected discount rate and/or MfADs.

Updated projected cash flows were reviewed against the selected risk-free yield curve, derived from Government of Canada benchmark bond yields monthly series using values for March 2020. Column [4] accounts for the change in the **discount rate** selected (decreased 101 basis points to **0.63%**), indicating an unfavourable impact of \$7.3 million. The impact *related only to claims liabilities* (i.e. PAYs plus CAY) was \$5.8 million at May 2020 – this compares to the \$6.1 million change one would estimate as the impact by interpolation using the interest rate sensitivity table provided in last month’s Actuarial Highlights.

Column [5] accounts for any changes to selected MfADs. The selected **investment rate MfAD** was **left unchanged at 25 basis points** and the selected **claims development MfADs** at the coverage and accident year level were also left unchanged (as per our usual practice, development margins are reviewed with the June 30 valuation).

COVID-19 impact

The current valuation includes a nominal \$5.0 million favourable AY2020 adjustment related to the COVID-19 pandemic impact. This adjustment reflects a 30% reduction in a priori loss ratios for short-tailed physical damage coverages over the mid-March to end-of-June period.

Consideration of the impact of the COVID-19 pandemic was discussed with the FA Actuarial Committee and FA Audit & Risk Committee and included input and discussion with Industry stakeholders and uncertainties associated with the current RSP reporting environment, including:

- Limited experience as of Q1
- Potential delayed reporting
- Changes in claims frequency and severity
- Correlations between short-tailed coverages and long-tailed coverages
- Changes in premium volume due to refund/non-renewal/reduction in coverages
- Changes in member’s participation in the Risk Sharing Pools

Given the uncertainties associated with the current RSP reporting environment, this adjustment will be revisited with the 2020 Q2 (June) valuation, which we anticipate will be implemented in the August 2020 Operational Report.

Consideration was given to recent legal decisions and changes in legislation / regulation as noted above and outlined in section 1.4.

1.3 Appointed Actuary and Hybrid Actuarial Services Model

Mr. Cosimo Pantaleo of Ernst & Young LLP (EY) was appointed as Actuary by the FA Board at its February 18, 2020 meeting.

Facility Association operates under a hybrid model in relation to the management and provision of actuarial services. Under this model, actuarial services are performed by both Facility Association's internal staff and its external actuarial consulting firm. The hybrid model approach maximizes the efficiency of resource allocation while providing access to additional expertise and capacity as needed.

1.4 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation²

There have been no changes in these descriptions since last month's Highlights, other than updated references to reflect the new valuation.

Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent (i.e. within the last five years) changes are provided below.

In the **Alberta Treasury Board and Finance Notice 04-2018** (Clarification of Minor Injury Regulation), dated **May 17, 2018**, the Alberta Superintendent of Insurance advised that clarifying amendments have been made to the definition of minor injuries under the Minor Injury Regulation (MIR). With the **most recent** valuation March 31, 2020, reform adjustments related to changes in the definition of minor injuries under the MIR, were included with the updated industry trend analysis (completed using industry data as at June 30, 2019), impacting the selection of ultimates.

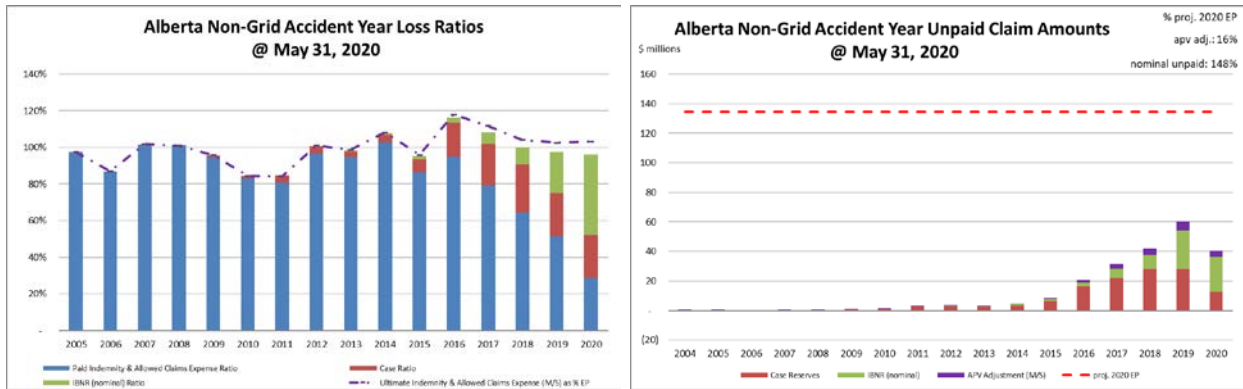
1.5 Current Provision Summary

The following charts show the current levels of claim liabilities³ booked by accident year⁴. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2020 full year earned premium (the red hash-mark line) to provide some perspective.

²This url to a pdf is to a helpful guide on how bills become laws: <https://www.ola.org/sites/default/files/common/how-bills-become-law-en.pdf>.

³Claim liabilities refer to provision for unpaid indemnity and allowed claims expenses. Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this discussion.

⁴Accident year 2004 was an incomplete year and therefore has been excluded from the loss ratio chart.



“M/S” refers to “Member Statement” values – that is, actuarial present value adjustments at the selected discount rate.

The current actuarial present value adjustments balance (\$21.0 million – see the following table) represents 16% of the earned premium projected for the full year 2020 (see the upper right corner of the preceding chart on the right). If our current estimates of the nominal unpaid amounts prove to match actual claims payments, the actuarial present value adjustments will be released into the net operating result over future periods.

claim liabilities (\$000s)

	amt	%
case	127,894	58.3%
ibnr	70,592	32.2%
M/S apv adjust.	21,037	9.6%
M/S total	219,523	100.0%

The table to the left breaks down the Member Statement (M/S) claim liabilities total into component parts, showing that the majority of the claim liabilities for this RSP is in case reserves. Approximately 71% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 89% of the M/S total claim

liabilities are related to accident years 2016–2020 inclusive (i.e. the most recent 5 accident years), and approximately 1% is related to accident years 2010 and prior (i.e. prior to the most recent 10 accident years).

The following tables summarize the premium liabilities and the total policy liabilities.

premium liabilities (\$000s)

	amt	%
unearned prem	69,306	94.9%
prem def/(dpac)	(1,890)	(2.6%)
M/S apv adjust.	5,622	7.7%
M/S total	73,038	100.0%

policy liabilities (\$000s)

	amt	%
claim	198,486	67.8%
premium	67,416	23.0%
M/S apv adjust.	26,659	9.1%
M/S total	292,561	100.0%

2 Activity During the Month of May 2020

2.1 Recorded Premium and Claims Activity

The following table summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month’s Operational Report⁵.

⁵There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

Alberta Non-Grid RSP Actual vs Projected Summary: Recorded Transaction Amounts (\$ thousands)

Accident Year	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	(1)	(1)	2,090	496	(1,041)	(82)	1,049	414
2018	(91)	(91)	600	(57)	573	716	1,173	659
2019	(267)	(267)	454	(783)	(429)	502	25	(281)
2020	11,188	(420)	3,000	(1,054)	838	(1,252)	3,837	(2,307)
TOTAL	10,829	(780)	6,144	(1,398)	(60)	(117)	6,084	(1,516)

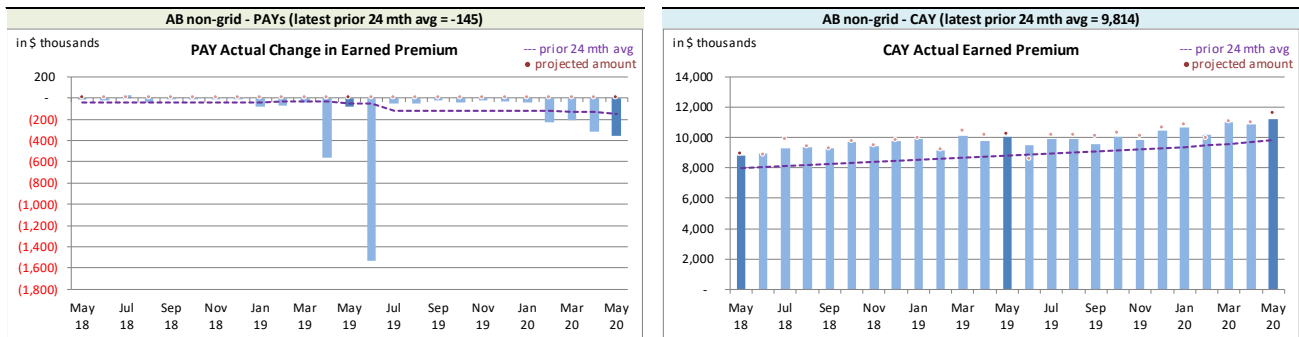
(Recorded transaction amounts exclude IBNR & other actuarial provisions)

Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural “process variance” (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of the variance. Commentary from our review is provided in the sub-sections that follow.

2.1.a Actual vs. Projected (AvsP): Earned Premium

The following charts show actual **earned premium**⁶ activity in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

Alberta non-Grid RSP Actual Earned Premium by Calendar Month



On Latest \$ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(145)	9,814
std dev	322	569
A-P <> std dev	6	2
% <> std dev	24.0%	8.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

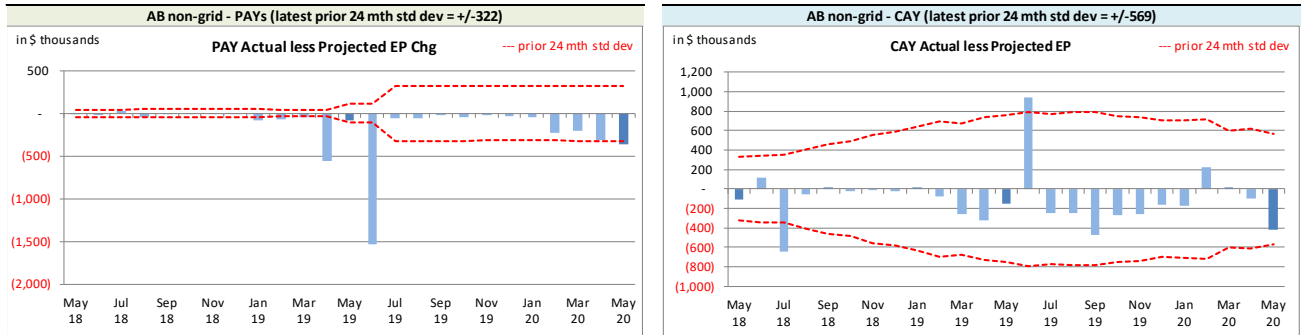
The associated variance between the actual changes and the projections from the previous month are shown in the following charts. **Earned premium**

change projections are all attributed to the current accident year as the projection upload does not accept **earned premium** changes for other accident years. We do not see this limitation as being significant for our purposes, but it does mean that the actual less projection variance will equal the

⁶Premium is earned on a daily basis based on the transaction term measured in days. As a result, months with 31 days earned relatively more than those with 30 days, and February earns the least.

actual **earned premium** change in relation to prior accident years.

*Alberta non-Grid RSP Actual vs. Projected Summary: **Earned Premium** Variances by Calendar Month*

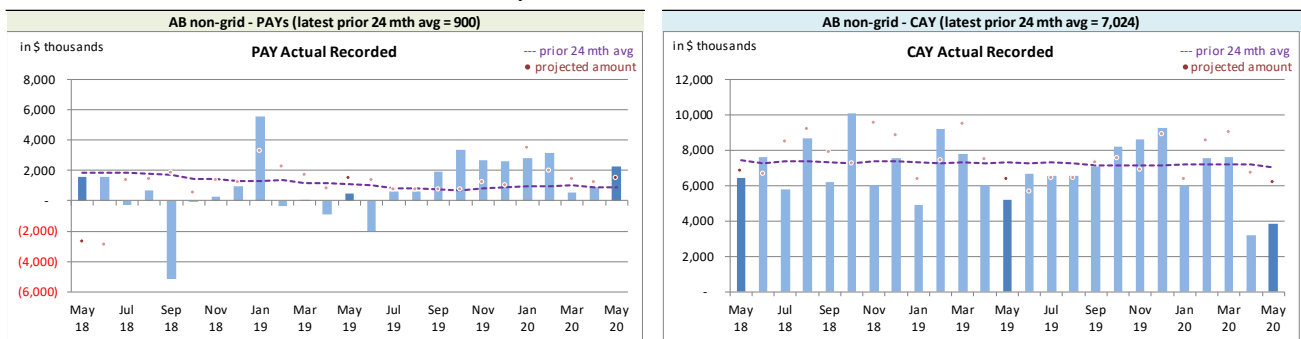


We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years’ (PAYS) bias⁷, with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYS’ bias, the CAY has also shown bias⁸, with actuals being generally lower than projected, and while we modified our projections processes in response, bias still exists. Over time, we may consider other projection approaches to address the bias issue, but it is not currently deemed as priority.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

The following charts show actual **recorded** activity (**paid** and case reserve changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

Alberta non-Grid RSP Actual Recorded by Calendar Month

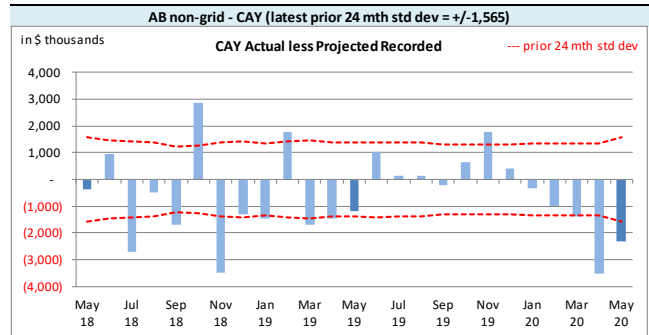
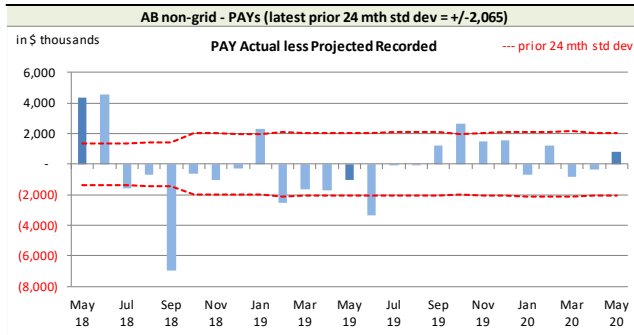


Recorded activity variances from the previous month’s projections are shown in the following charts, including the “prior 24-month standard deviation” levels to show how the variances from projection compare with historical standard deviations.

⁷The PAYS’ variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

⁸We measure bias based on a 95% confidence range for a binominal distribution with trials based on the range being considered (25 in this case) and 50% probability of success. The rolling 25-month CAY variances at May 2020 had only 6 months where the actuals was higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

Alberta non-Grid RSP Actual vs Projected Summary: **Recorded** Variances by Calendar Month



On Latest \$ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	900	7,024
std dev	2,065	1,565
A-P <> std dev	8	12
% <> std dev	32.0%	48.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	worse

With respect to **recorded** indemnity & allowed claims expense activity, 32% of the prior accident years' (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **recorded** amounts (see table on left), suggesting the projection process has performed no better than simply projecting the prior 24-month average amount (assuming it follows a

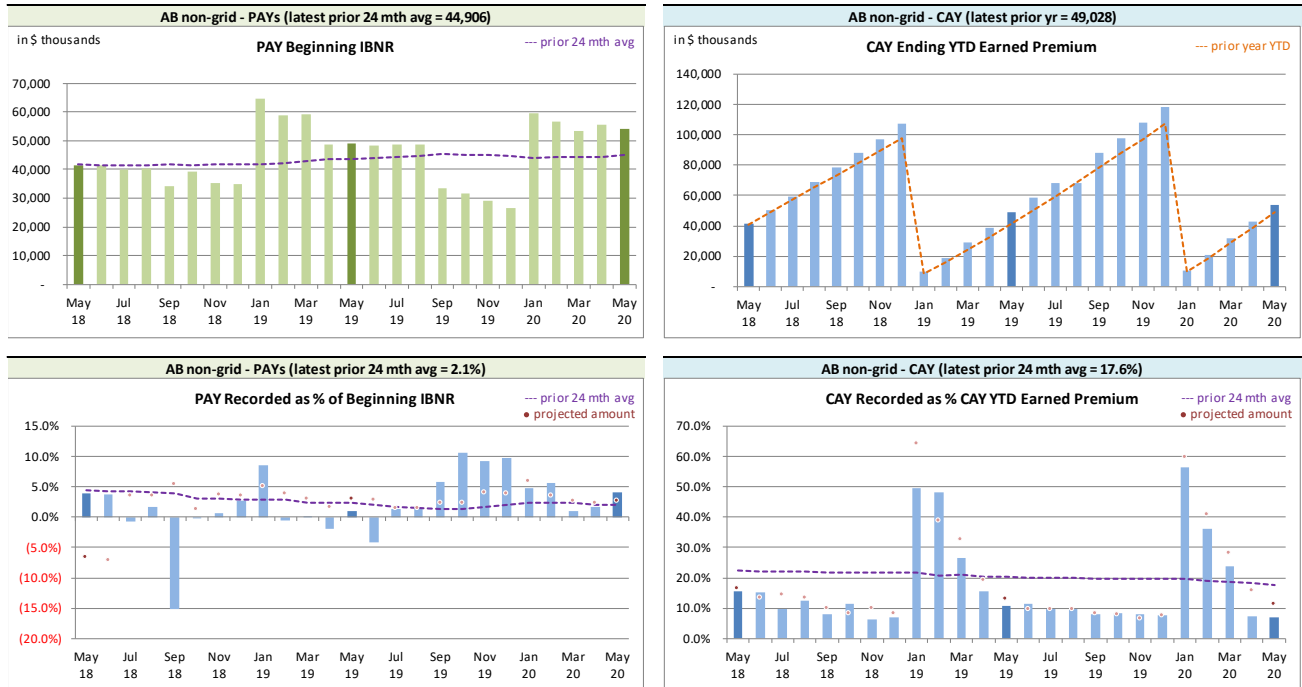
normal distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (9 of 25 variances are positive).

The current accident year (CAY) **recorded** variances fell outside of one standard deviation 48% of the time over the last 25 calendar months (see the preceding table on the left), suggesting that the projection process has performed worse than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (10 of 25 variances are positive).

The CAY **recorded** variance was outside of the one standard deviation band this month (see preceding chart on the right). The significant lower than projected recorded activity was reviewed, and attributed to a reduction in written premium and physical damage claims experience in the month further to the projection adjustment made last month in relation to COVID-19 pandemic. The current month's projection of future recorded activity is based on updated assumptions under the new valuation (as at March 31, 2020) which includes key assumptions updated to reflect the COVID-19 impact.

The method for establishing IBNR adjusts automatically for changes in **earned premium** and **recorded** claims activity level (see sections 2.2 and 3).

We have included, for reference, the following charts related to levels influencing **recorded** activity.

Alberta non-Grid RSP Levels that influence⁹ Recorded activity by Calendar Month


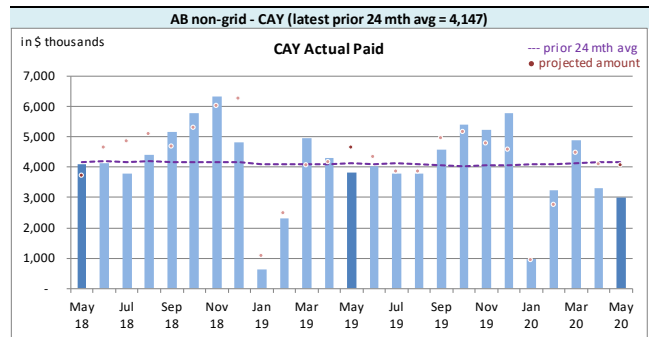
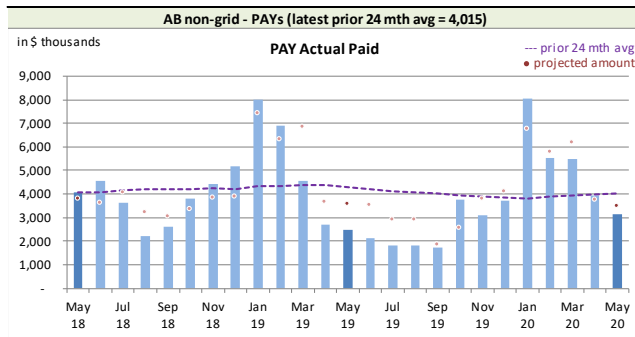
We track PAY beginning IBNR as **recorded** activity comes out of IBNR. Changes in the PAY beginning IBNR (see upper left chart above) occur for several possible reasons:

- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs’ ultimates (will show up as a beginning IBNR change one month after the valuation is implemented, i.e. the change will generally show in April, June, September, and November).

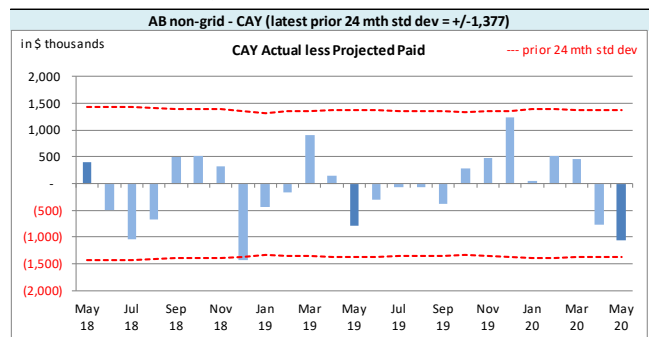
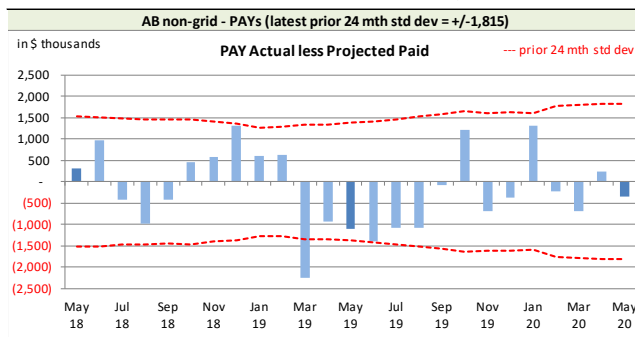
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

The following charts show actual **paid** activity in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

⁹Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned premium), deriving year-to-date recorded as selected ultimate less IBNR. In both cases, the ratio selection is based on our review of the more recent recorded activity and recent AvsP analyses.

*Alberta non-Grid RSP Actual **Paid** activity by Calendar Month*


Paid activity variances from the previous month’s projections are shown in the following charts, including the “prior 24-month standard deviation” levels to show how the variances from projection compare with historical standard deviations.

*Alberta non-Grid RSP Actual vs Projected Summary: **Paid** Variances by Calendar Month*


On Latest \$ thousands		
	Paid	
Mthly Avg Paid (prior 24 mths)	4,015	CAY 4,147
std dev	1,815	1,377
A-P <> std dev	1	1
% <> std dev	4.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

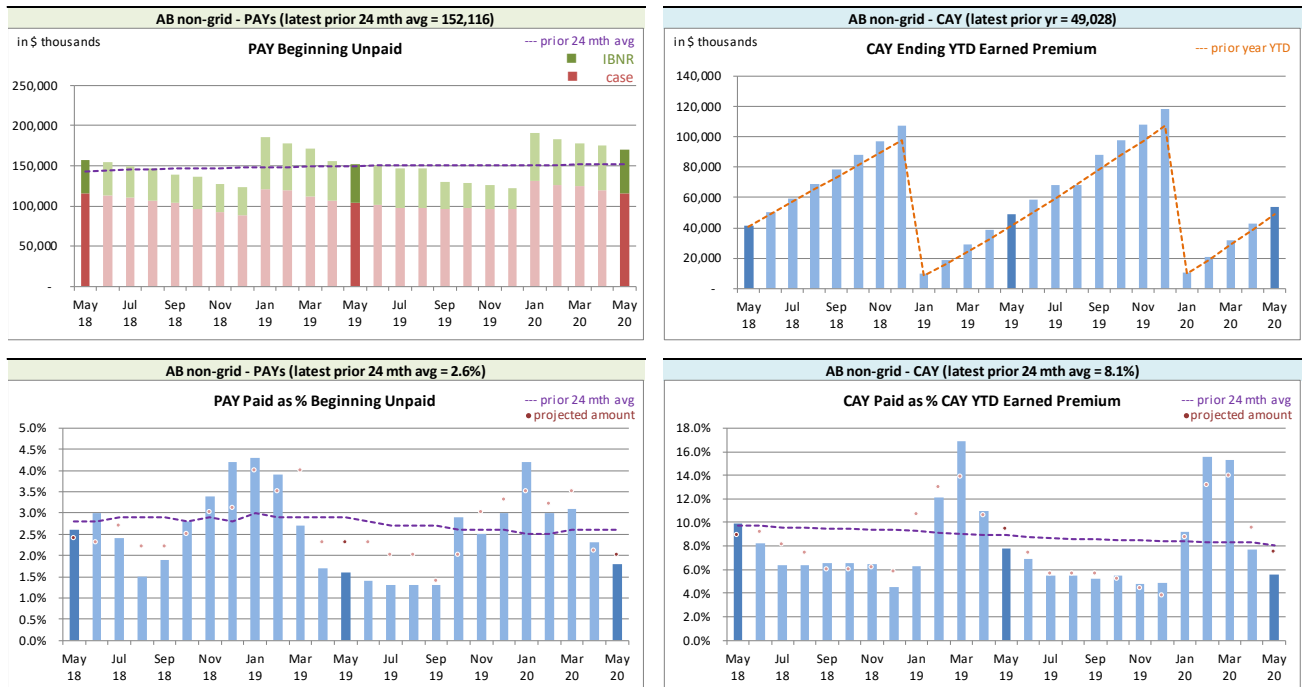
With respect to **paid** indemnity & allowed claims expense, 4% of the prior accident years’ (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **paid** amounts (see table on left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount (assuming it follows a normal distribution). Bias

has not been indicated at a 95% confidence level on a lagging 24-month basis (10 of 25 variances are positive).

The current accident year (CAY) **paid** variances fell outside of one standard deviation 4% of the time over the last 25 calendar months (see the preceding table), suggesting the projection process has performed better than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (12 of 25 variances are positive).

As discussed with respect to projected CAY recorded claims activity, the current month’s projection of future paid activity is based on updated assumptions under the new valuation (as at March 31, 2020) which includes key assumptions updated to reflect COVID-19 impact.

We have included, for reference, the following charts related to levels influencing **paid** activity.

Alberta non-Grid RSP Levels that influence¹⁰ Paid activity by Calendar Month


We track the PAY beginning unpaid balance (case and IBNR) as **paid** activity comes out of the unpaid balance. Changes in the PAY beginning unpaid balance (see upper left chart above) occur for several possible reasons:

- to offset actual **paid** activity (may reduce case or IBNR or both);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs’ ultimates (will show up as a beginning unpaid balance change one month after the valuation is implemented, i.e. the change will generally show in April, June, September, and November).

2.2 Actuarial Provisions

An ultimate loss ratio matching method (described in section 3) is used to determine the month’s IBNR¹¹, and factors are applied to the nominal unpaid claims liability (case plus IBNR) to determine the discount amount (shown as a negative value to indicate its impact of reducing the liability) and the Provisions for Adverse Deviations. The loss ratios and the factors used to determine the projections and actuals were based on the applicable valuation.

The following table summarizes variances in provisions included in this month’s Operational Report

¹⁰Our paid projections for the prior accident years are based on selected ratios of paid to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date paid to year-to-date selected ultimate indemnity (i.e. selected LR x earned premium). In both cases, the ratio selection is based on our review of the more recent recorded activity and recent AvsP analyses.

¹¹For ease of discussion, “IBNR” is used in place of “provisions for incurred but not recorded (IBNR) and development”.

and the associated one-month projections from last month’s Report.

Alberta Non-Grid RSP Actual vs Projected Summary: IBNR and APV Amounts (\$ thousands)

Table 02

Accident Year	IBNR		actuarial present value adjustments				IBNR + actuarial present value adjustments	
	Actual	Actual less Projected	Discount Amount		Provisions for Adverse Deviations		Actual	Actual less Projected
			Actual	Actual less Projected	Actual	Actual less Projected		
Prior	10,918	(703)	(1,154)	1,790	8,060	132	17,824	1,219
2018	9,845	(1,067)	(602)	956	4,857	74	14,100	(37)
2019	26,150	(4,098)	(920)	1,676	6,973	(318)	32,203	(2,740)
2020	23,679	(54)	(619)	1,003	4,442	(43)	27,502	906
TOTAL	70,592	(5,922)	(3,295)	5,425	24,332	(155)	91,629	(652)

The IBNR provision is \$5.9 million lower than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1., and due to the valuation implementation.

Exhibit G shows the accident year IBNR amount change from last month to this month broken down into:

- (i) the change projected last month;
- (ii) the additional change due to variances in earned premium (because we apply a loss ratio to earned premium in determining ultimate level) and/or recorded claims (as IBNR is calculated as ultimate less recorded) differences; and
- (iii) the additional change due to valuation implementation impacts (as applicable)

The variances associated with (ii) above are discussed in sections 2.1.a and 2.1.b.

The following table summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in this month’s Operational Report and the one-month projections from last month’s Report. This RSP is in a premium deficiency position (shown as a positive amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments increase the liability value as the adjustments increase the expected future policy obligations (costs) associated with the unearned premium. The variances noted are mainly driven by the unearned premium variance, and due to the valuation implementation.

Alberta Non-Grid RSP Actual vs Projected Summary: Premium Deficiency / (DPAC) Amounts (\$ thousands)

Table 03

	Premium Deficiency / (Deferred Policy Acquisition Costs)		actuarial present value adjustments		Premium Deficiency / (DPAC) including actuarial present value adjustments	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
balance:	(1,890)	(2,006)	5,622	1,136	3,732	(870)
balance as % unearned premium:	(2.7%)	(2.9%)	8.1%	1.9%	5.4%	(1.0%)
actual unearned premium:	69,306					
less projected:	(2,351)					

3 Ultimate Loss Ratio Matching Method

An “ultimate loss ratio matching method” continues to be applied to the current month and two projected months shown in the Operational Reports, with IBNR determined by accident year as follows:

- (a) Earned premium to-date
- (b) Ultimate loss¹² ratio per latest valuation
- (c) Estimated ultimate incurred = (a) x (b)
- (d) Recorded indemnity & allowed claims expense to-date
- (e) IBNR = (c) – (d)

4 Calendar Year-to-Date Results

The following table summarizes the calendar year-to-date results for indemnity & allowed claims expenses¹³, including IBNR.

In calculating the amounts as percentages of earned premium, the calendar year-to-date earned premium has been used, which includes earned premium associated with the current accident year but also earned premium adjustments related to prior accident years. Specifically, the current accident year (CAY) ratio in the table is 98.2% rather than 96.1% (the valuation ultimate ratio for accident year 2020), as the calendar year-to-date earned premium includes prior accident year earned premium adjustments. (Note that the ratios in this table may differ slightly from those shown in the Alberta Non-Grid RSP Summary of Operations due to rounding.)

Alberta Non-Grid RSP Calendar Year-to-Date Indemnity & Allowed Claims Expense Summary
(\$ thousands)

Table 04	YTD Nominal Values		YTD actuarial present value adjustment		YTD Total		Change from Prior Month YTD	
	Amount	% EP	Amount	% EP	Amount	% EP	Amount	LR pts
PAYs	(3,031)	(5.7%)	1,907	3.6%	(1,124)	(2.1%)	(1,025)	(1.9%)
CAY	51,823	98.2%	3,823	7.2%	55,646	105.4%	10,743	(1.6%)
TOTAL	48,792	92.5%	5,730	10.9%	54,522	103.3%	9,719	(3.5%)

(“% EP” based on 2020 calendar year-to-date earned premium; ratios may not total due to rounding)

In general, prior accident years (PAYs) changes from last month are due to the release of the actuarial present value adjustments with claims payments, except when valuations are implemented. The loss ratio change year-to-date in Table 04 reflects not only changes in the prior accident year levels, but also the increase in the calendar year-to-date earned premium with an additional month’s earned premium, and due to the valuation implementation.

For the current accident year (CAY), changes in the year-to-date total reflects the additional month’s exposure and regular changes to actuarial present value adjustments as the year ages, and due to the valuation implementation.

¹²“Loss” here refers to indemnity and allowed claims expenses, but does not include the claims expense allowance included in member company overall expense allowances (“Expense Allowance” in the Operational Report).

¹³Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this analysis.

5 Current Operational Report – Additional Exhibits

Section 6 provides exhibits pertaining to the actuarial provisions reflected in the current month's Operational Report.

IBNR (including actuarial present value adjustments) presented in section 6, Exhibit A, were derived on a discounted basis, and therefore reflect the time value of money and include an explicit provision for adverse deviations in accordance with accepted actuarial practice in Canada.

IBNR presented in section 6, Exhibit B, does NOT include any actuarial present value adjustments. The "Total IBNR" from this exhibit is shown in the Operational Report as "Undiscounted IBNR".

The ultimate loss ratios detailed in section 6, Exhibit B, refer to the estimates derived on the basis of various actuarial methodologies applied to the experience of the Alberta Non-Grid Risk Sharing Pool for the purposes of the most recent quarterly valuation. As discussed in section 3, IBNR reflected in the current month's Operational Report was derived as the difference between the estimated ultimate for the claims amount (i.e. earned premium x ultimate loss ratio) and the associated current recorded amounts (life-to-date payments plus current case reserves).

6 EXHIBITS

The exhibits listed below are provided on the pages that follow:

- EXHIBIT A IBNR for Member Sharing – includes Actuarial Present Value Adjustments
- EXHIBIT B IBNR
- EXHIBIT C Premium Liabilities
- EXHIBIT D Projected Year-end Policy Liabilities
- EXHIBIT E Discount Rate & Margins for Adverse Deviations
- EXHIBIT F Interest Rate Sensitivity
- EXHIBIT G Components of IBNR Change During Month

EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

TABLE EXHIBIT A

		Amounts in \$000s				
IBNR + M/S actuarial present value adjustments	Accident Year	Actual Apr. 2020	Actual May. 2020	Projected Jun. 2020	Projected Jul. 2020	Projected Dec. 2020
	2004	42	42	41	40	34
	2005	13	13	13	12	11
	2006	18	1	1	1	1
	2007	114	17	16	15	12
	2008	67	67	64	63	54
	2009	(178)	50	48	47	40
	2010	63	72	70	69	59
	2011	183	(326)	(310)	(306)	(271)
	2012	603	426	412	399	343
	2013	922	701	676	659	569
	2014	1,902	1,221	1,174	1,146	991
discount rate	2015	1,818	2,202	2,118	2,069	1,789
0.63%	2016	2,278	4,158	4,025	3,808	3,079
	2017	9,497	9,180	8,585	8,139	6,820
interest rate margin	2018	14,707	14,100	13,929	13,615	11,578
25 basis pts	2019	35,349	32,203	31,807	31,442	28,828
	2020	20,596	27,502	31,721	35,631	44,569
	TOTAL	87,994	91,629	94,390	96,849	98,506
	Change		3,635	2,761	2,459	

Please see Exhibit G, page 1 for Components of Change during Current Month

EXHIBIT B

IBNR

TABLE EXHIBIT B

Amounts in \$000s

IBNR

Ultimate Loss Ratio	Accident Year	Actual Apr. 2020	Actual May. 2020	Projected Jun. 2020	Projected Jul. 2020	Projected Dec. 2020
349.1%	2004	36	36	35	34	29
97.4%	2005	5	5	5	5	5
86.9%	2006	16	1	1	1	1
101.8%	2007	83	(11)	(11)	(11)	(10)
101.1%	2008	64	64	61	60	52
95.6%	2009	(233)	(28)	(27)	(26)	(22)
84.3%	2010	(16)	(27)	(26)	(25)	(21)
83.9%	2011	12	(550)	(527)	(516)	(449)
100.7%	2012	370	131	126	123	107
98.3%	2013	718	439	421	413	359
107.8%	2014	1,596	850	815	799	694
95.2%	2015	1,408	1,535	1,472	1,443	1,255
116.1%	2016	1,160	2,475	2,374	2,196	1,658
108.3%	2017	7,037	5,998	5,470	5,120	4,097
100.1%	2018	11,426	9,845	9,747	9,533	7,901
97.4%	2019	30,554	26,150	25,888	25,629	23,448
96.1%	2020	18,303	23,679	27,211	30,414	36,494
	TOTAL	72,539	70,592	73,035	75,192	75,598
	Change		(1,947)	2,443	2,157	

Please see Exhibit G, page 2 for Components of Change during Current Month

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C

	Amounts in \$000s				
	Actual Apr. 2020	Actual May. 2020	Projected Jun. 2020	Projected Jul. 2020	Projected Dec. 2020
Premium Liabilities					
(1) unearned premium (UP)	69,008	69,306	68,254	66,381	79,376
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	106.4%	105.4%	105.7%	106.0%	108.9%
(3) expected future costs {(1) x (2)}	73,442	73,038	72,133	70,390	86,408
(4) premium deficiency / (deferred policy acquisition cost)	4,434	3,732	3,879	4,009	7,032
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	100.2%	97.3%	97.6%	97.9%	100.5%
(6) expected future costs {(1) x (5)}	69,124	67,416	66,582	64,972	79,757
(7) premium deficiency / (deferred policy acquisition cost)	116	(1,890)	(1,672)	(1,409)	381

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2020, broken down by component.

Alberta non-Grid ending 2020		Projected Balances as at Dec. 31, 2020 (\$000s)									
		nominal values			actuarial present value adjustments (apvs)						
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL	
2004	21	29	50	-	-	5	-	5	5	55	
2005	58	5	63	-	-	6	-	6	6	69	
2006	1	1	2	-	-	-	-	-	-	2	
2007	243	(10)	233	(2)	1	23	-	23	22	255	
2008	(30)	52	22	-	-	2	-	2	2	24	
2009	704	(22)	682	(8)	3	68	(1)	67	62	744	
2010	887	(21)	866	(10)	4	87	(1)	86	80	946	
2011	2,421	(449)	1,972	(28)	12	197	(3)	194	178	2,150	
2012	2,495	107	2,602	(36)	16	260	(4)	256	236	2,838	
2013	1,964	359	2,323	(33)	14	232	(3)	229	210	2,533	
2014	2,701	694	3,395	(61)	24	340	(6)	334	297	3,692	
2015	5,019	1,255	6,274	(125)	50	621	(12)	609	534	6,808	
2016	14,437	1,658	16,095	(274)	113	1,609	(27)	1,582	1,421	17,516	
2017	19,995	4,097	24,092	(385)	145	3,011	(48)	2,963	2,723	26,815	
2018	24,646	7,901	32,547	(521)	195	4,068	(65)	4,003	3,677	36,224	
2019	24,626	23,448	48,074	(817)	337	5,961	(101)	5,860	5,380	53,454	
PAYs (sub-total):	100,188	39,104	139,292	(2,300)	914	16,490	(271)	16,219	14,833	154,125	
CAY (2020)	40,405	36,494	76,899	(1,307)	538	8,997	(153)	8,844	8,075	84,974	
claims liabilities:	140,593	75,598	216,191	(3,607)	1,452	25,487	(424)	25,063	22,908	239,099	
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*	
premium liabilities:	79,376	381	79,757	(1,032)	397	7,382	(96)	7,286	6,651	86,408	
*Total may not be sum of parts, as apvs apply to future costs within UPR											
policy liabilities:			295,948	(4,639)	1,849	32,869	(520)	32,349	29,559	325,507	

EXHIBIT E

Discount Rate & Margins for Adverse Deviations

The tables below present selected margins for adverse development by coverage (the total is a weighted average, based on the unpaid claims projection for December 31, 2020 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Mar. 31,
2020)

Accident Year	Third Party Liability Margins	Accident Benefits Margins	Other Coverages Margins	Total Margins
2004	10.0%	10.0%	10.0%	10.0%
2005	10.0%	10.0%	10.0%	10.0%
2006	9.9%	10.0%	10.0%	9.9%
2007	10.0%	10.0%	10.0%	10.0%
2008	10.0%	10.0%	10.0%	10.0%
2009	10.0%	10.0%	10.0%	10.0%
2010	10.0%	10.0%	10.0%	10.0%
2011	10.0%	10.0%	10.0%	10.0%
2012	10.0%	10.0%	9.3%	10.0%
2013	10.0%	10.0%	10.0%	10.0%
2014	10.0%	10.0%	9.2%	10.0%
2015	10.0%	10.0%	10.0%	9.9%
2016	10.0%	10.0%	10.0%	10.0%
2017	12.5%	10.0%	12.5%	12.5%
2018	12.5%	10.0%	11.5%	12.5%
2019	12.4%	10.0%	7.7%	12.4%
2020	12.2%	10.0%	12.5%	11.7%
2021	11.9%	10.0%	5.2%	9.3%
<u>prem liab</u>	11.9%	10.0%	5.2%	9.3%

discount rate: 0.63%
margin (basis points): 25

EXHIBIT F

Interest Rate Sensitivity

The tables below present sensitivity to the member statement claims liability as projected to Dec. 31, 2020 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2020, and are based on more up-to-date information). We have included the most recent valuation selection (0.63%), the prior valuation assumption (1.64%) and the prior fiscal year end valuation assumption (1.46%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

\$ Format: \$000s

AY	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2020 projected Unpaid							
	0.00%	0.13%	0.63%	1.13%	1.63%	2.13%	1.64%	1.46%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	1	1	1	1	1	1	1	1
2007	247	247	246	244	243	241	243	243
2008	-	-	-	-	-	-	-	-
2009	694	694	689	683	677	671	677	679
2010	915	915	908	900	892	884	892	894
2011	2,019	2,018	2,001	1,979	1,958	1,937	1,957	1,965
2012	2,726	2,725	2,701	2,672	2,643	2,615	2,643	2,653
2013	2,763	2,762	2,738	2,708	2,679	2,651	2,679	2,689
2014	4,502	4,500	4,451	4,389	4,329	4,270	4,327	4,349
2015	6,202	6,200	6,121	6,023	5,927	5,834	5,924	5,959
2016	15,301	15,297	15,134	14,933	14,737	14,547	14,733	14,803
2017	23,692	23,684	23,443	23,148	22,860	22,579	22,852	22,957
2018	34,773	34,761	34,409	33,977	33,555	33,143	33,542	33,696
2019	52,418	52,395	51,837	51,148	50,474	49,822	50,460	50,704
2020	85,401	85,366	84,460	83,339	82,245	81,187	82,222	82,618
Total	231,654	231,565	229,139	226,144	223,220	220,382	223,152	224,210
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Dollar Impact Relative to Valuation Assumption							
	0.00%	0.13%	0.63%	1.13%	1.63%	2.13%	1.64%	1.46%
Total	2,515	2,426	-	(2,995)	(5,919)	(8,757)	(5,987)	(4,929)
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Percentage Impact Relative to Valuation Assumption							
	0.00%	0.13%	0.63%	1.13%	1.63%	2.13%	1.64%	1.46%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	0.4%	0.4%	-	(0.8%)	(1.2%)	(2.0%)	(1.2%)	(1.2%)
2008	-	-	-	-	-	-	-	-
2009	0.7%	0.7%	-	(0.9%)	(1.7%)	(2.6%)	(1.7%)	(1.5%)
2010	0.8%	0.8%	-	(0.9%)	(1.8%)	(2.6%)	(1.8%)	(1.5%)
2011	0.9%	0.8%	-	(1.1%)	(2.1%)	(3.2%)	(2.2%)	(1.8%)
2012	0.9%	0.9%	-	(1.1%)	(2.1%)	(3.2%)	(2.1%)	(1.8%)
2013	0.9%	0.9%	-	(1.1%)	(2.2%)	(3.2%)	(2.2%)	(1.8%)
2014	1.1%	1.1%	-	(1.4%)	(2.7%)	(4.1%)	(2.8%)	(2.3%)
2015	1.3%	1.3%	-	(1.6%)	(3.2%)	(4.7%)	(3.2%)	(2.6%)
2016	1.1%	1.1%	-	(1.3%)	(2.6%)	(3.9%)	(2.6%)	(2.2%)
2017	1.1%	1.0%	-	(1.3%)	(2.5%)	(3.7%)	(2.5%)	(2.1%)
2018	1.1%	1.0%	-	(1.3%)	(2.5%)	(3.7%)	(2.5%)	(2.1%)
2019	1.1%	1.1%	-	(1.3%)	(2.6%)	(3.9%)	(2.7%)	(2.2%)
2020	1.1%	1.1%	-	(1.3%)	(2.6%)	(3.9%)	(2.6%)	(2.2%)
Total	1.1%	1.1%	-	(1.3%)	(2.6%)	(3.8%)	(2.6%)	(2.2%)
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

Components of Member Statement IBNR (i.e. “Discounted”) Change During Month

RSP **Alberta Non-Grid**
AccountCode Desc **IBNR - Discounted**

M/S IBNR - in \$000s

AccYear	Values				Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation			
2004	42	-	-	-	-	-	42
2005	13	-	-	-	-	-	13
2006	18	-	(17)	-	(17)	(94.4%)	1
2007	114	(2)	(23)	(72)	(97)	(85.1%)	17
2008	67	(1)	1	-	-	-	67
2009	(178)	-	(18)	246	228	(128.1%)	50
2010	63	(2)	(11)	22	9	14.3%	72
2011	183	(5)	(564)	60	(509)	(278.1%)	(326)
2012	603	(12)	4	(169)	(177)	(29.4%)	426
2013	922	(12)	56	(265)	(221)	(24.0%)	701
2014	1,902	(26)	113	(768)	(681)	(35.8%)	1,221
2015	1,818	(26)	(44)	454	384	21.1%	2,202
2016	2,278	(118)	216	1,782	1,880	82.5%	4,158
2017	9,497	(533)	(159)	375	(317)	(3.3%)	9,180
2018	14,707	(570)	(753)	716	(607)	(4.1%)	14,100
2019	35,349	(406)	54	(2,794)	(3,146)	(8.9%)	32,203
2020	20,596	6,000	1,936	(1,030)	6,906	33.5%	27,502
Grand Total	87,994	4,287	791	(1,443)	3,635	4.1%	91,629

EXHIBIT G

Components of IBNR (i.e. “Undiscounted”) Change During Month

RSP		Alberta Non-Grid						IBNR - in \$000s
AccountCode Desc		IBNR - Undiscounted						
AccYear	Values							Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation	Sum of Total Change	Sum of % Total Change		
2004	36	-	-	-	-	-	36	
2005	5	-	-	-	-	-	5	
2006	16	-	(15)	-	(15)	(93.8%)	1	
2007	83	(1)	(22)	(71)	(94)	(113.3%)	(11)	
2008	64	(1)	1	-	-	-	64	
2009	(233)	2	(12)	215	205	(88.0%)	(28)	
2010	(16)	-	(11)	-	(11)	68.8%	(27)	
2011	12	-	(562)	-	(562)	(4,683.3%)	(550)	
2012	370	(4)	(3)	(232)	(239)	(64.6%)	131	
2013	718	(7)	52	(324)	(279)	(38.9%)	439	
2014	1,596	(16)	110	(840)	(746)	(46.7%)	850	
2015	1,408	(14)	(38)	179	127	9.0%	1,535	
2016	1,160	(94)	241	1,168	1,315	113.4%	2,475	
2017	7,037	(500)	(155)	(384)	(1,039)	(14.8%)	5,998	
2018	11,426	(514)	(750)	(317)	(1,581)	(13.8%)	9,845	
2019	30,554	(306)	12	(4,110)	(4,404)	(14.4%)	26,150	
2020	18,303	5,430	1,888	(1,942)	5,376	29.4%	23,679	
Grand Total	72,539	3,975	736	(6,658)	(1,947)	(2.7%)	70,592	